# LIST OF CONTENTS

NUMBER 1

**Editorial**
Moshe Solomonow 1

**Electromyographic Response of the Trunk Muscles to Postural Perturbation in Sitting Subjects**
Milan Zedka, Shrawan Kumar and Yogesh Narayan 3

**Organization of Responses in Human Lateral Gastrocnemius Muscle to Specified Body Perturbations**
Steven L. Wolf, Josh Ammerman and Brigitte Jann 11

**Development of New Muscle Synergies in Postural Control in Spinal Cord Injured Subjects**
H. A. M. Seelen, Y. J. M. Potten, J. Drukker, J. P. H. Reulen and C. Pons 23

**Extrapolation of Time Series of EMG Power Spectrum Parameters in Isometric Endurance Tests of Trunk Extensor Muscles**
J. H. van Dieën, P. Heijblom and H. Bunkens 35

**EMG Variability During Maximum Voluntary Isometric and Anisometric Contractions is Reduced using Spatial Averaging**
J. E. Kasprisin and M. D. Grabiner 45

**EMG Signal Amplitude Assessment During Abdominal Bracing and Hollowing**
G. T. Allison, P. Godfrey and G. Robinson 51

**Calendar** I

NUMBER 2

SPECIAL ISSUE
Muscle Modelling

**Editorial**
Walter Herzog 59

**Muscle, the motor of movement: properties in function, experiment and modelling**
Peter A. Huijing 61

**Frequency domain-based models of skeletal muscle**
R. V. Baratta, M. Solomonow and B.-H. Zhou 79

**Musculoskeletal balance of the human wrist elucidated using intraoperative laser diffraction**
Richard L. Lieber and Jan Fridén 93

**Modelling functional effects of muscle geometry**
B. J. J. J. van der Linden, H. F. J. M. Koopman, H. J. Grootenboer and P. A. Huijing 101

**History dependence of force production in skeletal muscle: a proposal for mechanisms**
Walter Herzog 111

**Human muscle modelling from a user's perspective**
A. J. van der Bogert, K. G. M. Gerritsen and G. K. Cole 119

**Can muscle models improve FES-assisted walking after spinal cord injury?**
Jacques Bobet 125

**A numerical study of the stiffness of a sarcomere**
Mario Forcinito, Marcelo Epstein and Walter Herzog 133

**Calendar** I

NUMBER 3

**The effects of prior antagonist muscle vibration on performance of rapid movements**
Saša Radovanović, Slobodan Jarić, Sladjan Milanović, Ivana Vukčević, Miloš Ljubisavljević and Radmila Anastasijević 139

**EMG-force relation in dynamically contracting cat plantaris muscle**
W. Herzog, J. Sokolosky, Y. T. Zhang and A. C. S. Guimarães 147

**An electromyographic study of upper limb adduction force with varying shoulder and elbow postures**
Helenice Gil Coury, Shrawan Kumar and Yogesh Narayan 157

**Learning a motor task involving obstacles by a multi-joint, redundant limb: two synergies within one movement**
Slobodan Jaric and Mark L. Latash 169

**The effect of light manual precision work on shoulder muscles—an EMG analysis**
Håkan Sporrong, Gunnar Palmerud, Roland Kadefors and Peter Herberts 177

**Consequences of trapezius relaxation on the distribution of shoulder muscle forces: an electromyographic study**
Gunnar Palmerud, Håkan Sporrong, Peter Herberts and Roland Kadefors 185

NUMBER 4

SPECIAL ISSUE
EMG of Spinal Muscles

**Leader**
M. Solomonow iii

**Editorial**
Shrawan Kumar 195

**Ligamento-muscular protective reflex in the lumbar spine of the feline**
M. Stubbs, M. Harris, M. Solomonow, B. Zhou, Y. Lu and R. V. Baratta 197

**EMG recordings of abdominal and back muscles in various standing postures: validation of a biomechanical model on sacroiliac joint stability**
Chris J. Snijders, Margreet T.L.M. Ribbers, Hans V. de Bakker, Rob Stoeckart and Henk J. Stam 205

**Trunk kinematics and trunk muscle activity during a rapidly applied load**
James S. Thomas, Steven A. Lavender, Daniel M. Corcos and Gunar B.J. Andersson 215

**Frequency response of spine extensors during rapid isometric contractions: effects of muscle length and tension**
Lisa C. Brereton and Stuart M. McGill 227

**EMG assessment of back muscle function during cyclical lifting**
Serge H. Roy, Paolo Bonato and Marco Knaflitz 233

**Trunk muscle activities during asymmetric twisting motions**
W.S. Marras, K.G. Davis and K.P. Granata 247

**Spectral parameters of trunk muscles during fatiguing isometric axial rotation in neutral posture**
Shrawan Kumar and Yogesh Narayan 257

**Evaluation of EMG signals from rehabilitated patients with lower back pain using wavelets**
Nick D. Panagiotacopulos, Jae S. Lee, Malcolm H. Pope and Ken Friesen 269

**Calendar** I

**Standards for Reporting EMG Data** VI

NUMBER 5

**Leader**
M. Solomonow iii

**Methods to reduce the variability of EMG power spectrum estimates**
R. V. Baratta, M. Solomonow, B.-H. Zhou and M. Zhu 279

**Discharge rate of selected motor units in human biceps brachii at different muscle lengths**
P. Christova, A. Kossev and N. Radicheva 287

**Analysis of voluntary finger movements during hand tasks by a motion analyzer**
Mariko Nakamura, Chifumi Miyawaki, Noboru Matsushita, Ryo Yagi and Yasunobu Handa 295

**Variability of some SEMG parameter estimates with electrode location**
J.-Y. Hogrel, J. Duchêne and J.-F. Marini 305

**A study of the reproducibility of three different normalisation methods in intramuscular dual fine wire electromyography of the shoulder**
Alfred D. Morris, Graham J. Kemp, Adrian Lees and Simon P. Frostick 317

**Estimation of the relationship between the noninvasively detected activity of single motor units and their characteristic pathological changes by modelling**
Catherine Disselhorst-Klug, Jiri Silny and Günter Rau 323

**Rotational action of the supraspinatus muscle on the shoulder joint**
Kouji Ihashi, Noboru Matsushita, Ryo Yagi and Yasunobu Handa 337

**Book Reviews** 349

**Calendar** I

**Standards for Reporting EMG Data** III

NUMBER 6

**Leader**
M. Solomonow iii

**SPECIAL ISSUE SECTION**
**1998 ISEK Congress Keynote Lectures**

**1998 Basmajian Student Award Paper**

**Movement patterns after anterior cruciate ligament injury: a comparison of patients who compensate well for the injury and those who require operative stabilization**
Katherine S. Rudolph, Marty E. Eastlack, Michael J. Axe, and Lynn Snyder-Mackler 349

**The use of electromyography in applied physiology**
Toshio Moritani and Yasuhide Yoshitake 363

**Multi-muscle control in human movements**
Anatol G. Feldman, Mindy F. Levin, Arnold M. Mitnitski and Philippe Archambault 383

**Motor units: how many, how large, what kind?**
Alan J. McComas 391

**GENERAL PAPERS**

**Reliability of spectral EMG parameters of healthy back extensors during submaximum isometric fatiguing contractions and recovery**
John P. Peach, Jennifer Gunning and Stuart M. McGill 403

**Effects of the type of meniscal lesion on knee function**
Hélène Moffet, Carol L. Richards, Francine Malouin, Gina Bravo and Gaston Paradis 411

**Does methocarbamol affect fatigue markers in the low-back electromyogram?**
John Boakes, John P. Peach and Stuart M. McGill 423

**Announcement** I

**Calendar** III

**Standards for Reporting EMG Data** XI